

AMENDMENTS TO THE CLAIMS

The claims below replace all prior versions, and listings, of claims in this application.

1. (Currently Amended) A transmitter operable to communicate with a receiver via a wireless communication channel, wherein the transmitter comprises:

a processing subsystem; and

a transmitter subsystem coupled to the processing subsystem;

wherein the processing subsystem is configured to cover different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, to be transmitted on a first wireless communication channel with at least two different length spreading codes such that each spreading code covers each I/Q pair; and

wherein the transmitter subsystem is configured to transmit a resulting final data stream on the first wireless communication channel.

2. (Original) The transmitter of claim 1, wherein the processing subsystem comprises a demultiplexer configured to demultiplex the initial data stream into a plurality of intermediate data streams.

3. (Currently Amended) The transmitter of claim 2, wherein the processing subsystem is configured to cover each of the plurality of intermediate data streams with one of a set of spreading codes, wherein the set of spreading codes includes the at least two different length spreading codes.

4. (Previously Presented) The transmitter of claim 3, wherein the processing subsystem is configured to multiplex the plurality of intermediate data streams into the final data stream.

5. (Cancelled).

6. (Original) The transmitter of claim 1, wherein the spreading codes are Walsh codes.

7. (Original) The transmitter of claim 6, wherein the spreading codes comprise +- and ++-- codes.

8. (Original) The transmitter of claim 1, wherein the initial data stream comprises a stream of symbols.

9. (Original) The transmitter of claim 1, wherein the transmitter comprises a component of a base station operable in a wireless communication system.

10. (Original) The transmitter of claim 1, wherein the transmitter comprises a component of a mobile station operable in a wireless communication system.

11. (Currently Amended) The transmitter of claim 1, wherein the processing subsystem is configured to cover an additional data stream to be transmitted on a second wireless communication channel with a single spreading code and wherein the transmitter subsystem is configured to transmit the resulting data stream on the second wireless communication channel, wherein the single spreading code is different than the at least two different-length spreading codes used to cover the initial data stream.

12. (Currently Amended) A receiver operable to communicate with a transmitter via a wireless communication channel, wherein the receiver comprises:

a processing subsystem; and

a receiver subsystem coupled to the processing subsystem;

wherein the receiver subsystem is configured to receive an initial data stream via a first wireless communication channel; and

wherein the processing subsystem is configured to decode different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, using at least two different-length spreading codes such that each spreading is applied to each I/Q pair.

13. (Original) The receiver of claim 12, wherein the processing subsystem comprises a demultiplexer configured to demultiplex the initial data stream into a plurality of intermediate data streams.

14. (Currently Amended) The receiver of claim 13, wherein the processing subsystem is configured to decode each of the intermediate data streams using one of a set of spreading codes, wherein the set of spreading codes includes the at least two different-length spreading codes.

15. (Original) The receiver of claim 14, wherein the processing subsystem is configured to multiplex the intermediate data streams into a decoded data stream.

16. (Cancelled).

17. (Original) The receiver of claim 12, wherein the spreading codes are Walsh codes.

18. (Original) The receiver of claim 17, wherein the spreading codes comprise +- and ++-- codes.

19. (Original) The receiver of claim 12, wherein the decoded data stream comprises a stream of symbols.

20. (Original) The receiver of claim 12, wherein the receiver comprises a component of a base station operable in a wireless communication system.

21. (Original) The receiver of claim 12, wherein the receiver comprises a component of a mobile station operable in a wireless communication system.

22. (Currently Amended) The receiver of claim 12, wherein the processing subsystem is configured to decode an additional data stream received via a second wireless communication channel with a single spreading code, wherein the single spreading code is different than the at least two different-length spreading codes used to decode the initial data stream.

23. (Currently Amended) A method for transmitting information via a wireless communication channel, comprising:

providing an initial data stream to be transmitted on a first wireless communication channel:

covering different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, with at least two different-length spreading codes such that each spreading code covers each I/Q pair:
and

transmitting a resulting final data stream on the first wireless communication channel.

24. (Original) The method of claim 23, further comprising demultiplexing the initial data stream into a plurality of intermediate data streams.

25. (Currently Amended) The method of claim 24, wherein covering the initial data stream with the at least two different-length spreading codes comprises covering each of the intermediate data streams with one of a set of spreading codes, wherein the set of spreading codes includes the at least two different-length spreading codes.

26. (Original) The method of claim 25, further comprising multiplexing the intermediate data streams into the final data stream.

27. (Cancelled).

28. (Original) The method of claim 23, wherein the spreading codes are Walsh codes.

29. (Original) The method of claim 28, wherein the spreading codes comprise +- and ++-- codes.

30. (Original) The method of claim 23, wherein the initial data stream comprises a stream of symbols.

31. (Original) The method of claim 23, wherein the method is implemented in a base station operable in a wireless communication system.

32. (Original) The method of claim 23, wherein the method is implemented in a mobile station operable in a wireless communication system.

33. (Currently Amended) The method of claim 23, further comprising covering an additional data stream to be transmitted on a second wireless communication channel with a single spreading code and transmitting a corresponding data stream on the second wireless communication channel, wherein the single spreading code is different than the at least two different-length spreading codes used to cover the initial data stream.

34. (Currently Amended) A method for decoding information received via a wireless communication channel, comprising:

receiving an initial data stream via a first wireless communication channel; and

decoding different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, using at least two different-length spreading codes such that each spreading code is applied to each I/Q pair.

35. (Original) The method of claim 34, further comprising demultiplexing the initial data stream into a plurality of intermediate data streams.

36. (Currently Amended) The method of claim 35, further comprising decoding each of the intermediate data streams using one of a set of spreading codes, wherein the set of spreading codes includes the at least two different length spreading codes.

37. (Original) The method of claim 36, further comprising multiplexing the intermediate data streams into a decoded data stream.

38. (Cancelled).

39. (Original) The method of claim 34, wherein the spreading codes are Walsh codes.

40. (Original) The method of claim 39, wherein the spreading codes comprise +- and ++-- codes.

41. (Original) The method of claim 34, wherein the decoded data stream comprises a stream of symbols.

42. (Original) The method of claim 34, wherein the method is implemented in a base station operable in a wireless communication system.

43. (Original) The method of claim 34, wherein the method is implemented in a mobile station operable in a wireless communication system.

44. (Currently Amended) The method of claim 34, further comprising decoding an additional data stream received via a second wireless communication channel with a single spreading code, wherein the single spreading code is different than the at least two different-length spreading codes used to decode the initial data stream.

45. (Currently Amended) A computer-readable medium storing instructions thereon for transmitting information from a mobile station via a wireless communication channel, the instructions comprising:

instructions to provide an initial data stream to be transmitted on a first wireless communication channel;

instructions to cover different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, with at least two different-length spreading codes such that each spreading code covers each I/Q pair; and

instructions to transmit a resulting final data stream on a first wireless communication channel.

46. (Currently Amended) A computer-readable medium storing instructions thereon for decoding information received at a mobile station via a wireless communication channel, the instructions comprising:

instructions to receive an initial data stream via a first wireless communication channel;
and

instructions to decode different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, using at least two different-length spreading codes such that each spreading code is applied to each I/Q pair.

47. (Currently Amended) An apparatus in a wireless communication system, comprising:

a processor configured to cover different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, to be transmitted on a wireless communication channel with at least two different-length spreading codes such that each spreading code covers each I/Q pair; and

a transmitter coupled to the processor and configured to transmit a resulting final data stream on the wireless communication channel.

48. (Currently Amended) An apparatus in a wireless communication system, comprising:

a receiver coupled to the processor and configured to receive an initial data stream via a wireless communication channel; and

a processor configured to decode different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, using at least two different-length spreading codes such that each spreading code is applied to each I/Q pair.

49. (Currently Amended) An apparatus in a wireless communication system, comprising:

means for covering different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, to be transmitted on a wireless communication channel with at least two different-length spreading codes such that each spreading code covers each I/Q pair; and

means for transmitting a resulting final data stream on the wireless communication channel.

50. (Currently Amended) An apparatus in a wireless communication system, comprising:

means for receiving an initial data stream via a wireless communication channel; and

means for decoding different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, using at least two different-length spreading codes such that each spreading code is applied to each I/Q pair.